

WHAT IS CLAIMED IS:

1. An anode comprising:
 - (a) a niobium metal core,
 - (b) a conducting niobium suboxide layer, and
- 5 (c) a dielectric barrier layer comprising niobium pentoxide.
2. The anode according to Claim 1, wherein the anode has a tantalum content in the dielectric barrier layer ranging from about 1500 to about 12,000 ppm, relative to the anode.
- 10 3. The anode according to Claim 1, wherein the suboxide layer has a thickness that is at least about 50 nm.
4. The process for producing an anode for a capacitor comprising sintering niobium metal powders and electrolytically producing a dielectric barrier layer on a surface of a sintered body,
wherein the barrier layer is produced with an electrolyte that
- 15 contains an aqueous solution of an organic acid containing an anion.
 5. The process according to Claim 4, wherein the electrolyte comprises a tantalum oxalate solution.
 6. The process according to Claim 4, wherein the electrolyte has a conductivity ranging from about 0.15 to about 25 mS/cm.
- 20 7. The process according to Claim 6, wherein the conductivity of the electrolyte is at least about 5 mS/cm.
8. A capacitor comprising an anode comprising (a) a niobium metal core, (b) a conducting niobium suboxide layer and (c) a dielectric barrier layer of niobium pentoxide.